



National Vocational & Technical Training Commission
*Institute of Electrical, Electronics & Computer Engineering,
University of the Punjab, Lahore*



Artificial Intelligence C1 & C2

Assignment 1: 08/08/2023

Module 6: Database

Submission Requirements: Please upload your codes in PDF File on Google Classroom in the relevant Assignment section.

Note: Plagiarism is a serious violation. Zero marks will be awarded in case plagiarism is found.

Task 1:

- 1.1 Create a table named 'Authors' with columns: author_id (PRIMARY KEY), author_name.
- 1.2 Create a table named 'Books' with columns: book_id (PRIMARY KEY), book_title, author_id (FOREIGN KEY).
- 1.3 Write a query to show all book titles along with their corresponding author names.

Task 2:

2.1 Write an SQL query to retrieve the names of customers who made orders, along with the order IDs, from the 'Customers' and 'Orders' tables using INNER JOIN.

Task 3:

3.1 Retrieve the list of all departments along with the names of employees in each department. Include departments without employees using a LEFT JOIN between the 'Departments' and 'Employees' tables.

Task 4:

4.1 Write an SQL query to display all managers and their employees' names, even if some managers have no employees. Use a RIGHT JOIN between the 'Managers' and 'Employees' tables.

Task 5:

5.1 Generate a list of all possible combinations of product names and supplier names from the 'Products' and 'Suppliers' tables using a CROSS JOIN.

Task 6:

6.1 Retrieve customer names, their order IDs, and payment amounts (if available) from the 'Customers', 'Orders', and 'Payments' tables. Include all customers and their orders, as well as payments if they exist.

Task 7:

7.1 Write a query to list student names, course names, enrollment dates, and grades (if available) from the 'Students', 'Courses', 'Enrollments', and 'Grades' tables.

Task 8:

8.1 Fetch customer names, their order IDs, and corresponding product names from the 'Customers', 'Orders', and 'OrderDetails' tables. Use primary key relationships to join the tables.

Task 9:

9.1 Retrieve a list of employees and the projects they are working on, including employees without projects. Handle NULL values appropriately in your query.

Task 10:

10.1 Write a query to get customer names, order IDs, product names, and payment status (if available) from the 'Customers', 'Orders', 'Products', and 'Payments' tables. Ensure that all customer data is included.

Task 11:

Perform SQL Intermediate Certification on HackerRank.